What is claimed as the invention is:

1. A method for providing a comfort noise signal in a telephone having a receive channel and a transmit channel and a plurality of sub-band filters in at least one channel, said method comprising the steps of:

generating a white noise signal;

filtering the white noise signal in a filter bank to produce comfort noise signal;

selectively coupling the comfort noise signal to at least one of the channels.

2. The method as set forth in claim 1 wherein said filtering step includes the steps of:

coupling white noise signal through a first multiplier to the low pass input of the QMF bank;

coupling white noise signal through a second multiplier to the high pass input of the QMF bank;

controlling the gain of the first multiplier in accordance with the magnitude of the signal in a first analysis sub-band;

controlling the gain of the second multiplier in accordance with the magnitude of the signal in a second analysis sub-band;

wherein the first sub-band has a lower frequency than the second sub-band.

3. The method as set forth in claim 2 and further including the steps of:

combining the output signals from two or more analysis sub-band filters to produce a combined signal; and

controlling the gain of the second multiplier in accordance with the combined signal.

4. The method as set forth in claim 3 wherein the telephone includes n analysis sub-bands and there are no more than $(n-1)$ QMF banks and further including the step of:

upwardly cascading the QMF banks to increase the low frequency resolution of the comfort noise signal.

5. The method as set forth in claim 3 wherein the telephone includes n analysis sub-bands and there are no more than (n–1) QMF banks and further including the step of:

combining the outputs from higher frequency sub-band filters to increase the low frequency resolution of the comfort noise signal.

6. In a cellular telephone having an antenna, an RF stage coupled to said antenna, and a signal processing circuit including an audio processor having a receive channel and a transmit channel and a plurality of analysis sub-band filters in at least one of the channels, said cellular telephone characterized by a comfort noise generator comprising:

a white noise generator;

at least one QMF bank producing a comfort noise signal, said QMF bank having a high pass input and a low pass input;

a first multiplier having a control input coupled to a first of said analysis sub-band filters;

a second multiplier having a control input coupled to a second of said analysis sub-band filters;

wherein the first multiplier couples said white noise generator to said low pass input and said second multiplier couples said white noise generator to said high pass input;

means for selectively coupling the comfort noise signal to at least one of the channels.

7. The cellular telephone as set forth in claim 6 and further comprising:

n analysis sub-band filters and

no more than (n–1) QMF banks;

wherein the QMF banks are upwardly cascaded.

8. The cellular telephone as set forth in claim 6 and further including:

at least one summation circuit for coupling the outputs of more than one analysis sub-band filter to the control input of a multiplier.

9. The cellular telephone as set forth in claim 8 and further comprising:

n analysis sub-band filters and

no more than $(n-1)$ QMF banks;

wherein the QMF banks are upwardly cascaded.

10. The cellular telephone as set forth in claim 9 wherein the number of QMF banks is $(n/2 - 1)$.